

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 10/760,398

REMARKS

A total of 15 claims remain in the present application. The foregoing amendments are presented in response to the Office Action mailed April 4, 2005, wherefore reconsideration of this application is requested.

By way of the above-noted amendments, claim 1 has been amended to more clearly define features of the present invention. Claims 4 and 5 have been cancelled. Finally, claims 2 and 15 have been amended to correct typographical errors identified therein.

In preparing the above-noted amendments, careful attention was paid to ensure that no new subject matter has been introduced.

Referring now to the text of the Office Action:

- The Examiner has objected to defects in the claim to benefit of an earlier filing date;
- claims 2 and 15 stand objected to because of informalities identified therein under 35 U.S.C. § 112 as failing to distinctly claim the subject matter of the present invention;
- claims 1-8, 11-14 and 16 stand rejected under 35 U.S.C. § 102(e), as being unpatentable over the teaching of United States Patent No. 6,628,850 (Yao);
- claim 17 stands rejected under 35 U.S.C. § 103(a), as being unpatentable over the teaching of United States Patent No. 6,628,850 (Yao); and
- claims 9, 10 and 15 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As an initial matter, Applicant appreciates the Examiner's indication of allowable subject matter in claims 9, 10 and 15. The Examiner's various claim rejections are believed

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 10/760,398

to be traversed by the above-noted claim amendments, and further in view of the following discussion.

Defects in priority claim

The Examiner's identification of the defective priority claim is appreciated. This problem is due an error in the Application Data Sheet filed on January 21, 2004, which inadvertently referred to the Applicant's United States Patent Application No. 10/658,462, which was filed on the same day as 10/658,258.

In fact, the present application is a continuation of 10/658,258 which claims priority to, as indicated in the preliminary amendment filed January 21, 2004. A corrected Application Data Sheet was filed June 14, 2004, which reflects this status.

Confirmation that the conditions have been met for receiving benefit of the earlier filing dates in respect of 10/658,258 and 60/409,233 would be greatly appreciated.

Claim Objections

With reference to claims 2 and 15, it is believed that the Examiner's objections have been fully addressed by way of the above-noted amendments.

Rejections under 35 U.S.C. §102(e) and 103(a)

United States Patent No.6,628,850 (Yao) teaches "techniques and devices for modulating an optical signal transmitting through an optical waveguide such as a fiber and a planar waveguide by dynamically controlling an adjustable grating formed in a cladding layer of the waveguide". (Abstract) The embodiments illustrated in FIGs. 1, 1A-B and 2 all show the grating formed in an exterior surface of the cladding, and filled with a controllable-index matrix. As can be seen in FIG. 1, this results in a unitary structure, in which the cladding material surrounds the grooves of the grating, and fills the space between the grating and the waveguide core.

In contrast, the present invention "...provides a hidden relief modulation (HRM) cell 2 comprising an optical grating 4 surrounded by a matrix 6 having a controllable index of refraction. Note that the matrix 6 is not shown in the exploded view of FIG. 1a. One or more pairs of electrodes 8 are provided to apply a selected stimulus (e.g. voltage, current, heat etc.) to at least the matrix 6, to thereby control its refractive index. In use, the HRM cell 2 is positioned proximal a waveguide 10 having a core 12 surrounded by a cladding 14,

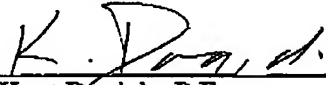
AMENDMENT UNDER 37 CFR § 1.111
Serial No. 10/760,398

so as to affect desired modes (e.g. core modes, cladding modes and/or evanescent field) of light propagating within the waveguide." (See Paragraph 31) As may be seen in FIGs. 1, 2b, and 2d-g, the relief modulation and electrodes are disposed on a surface of a hidden relief modulation (HRM) cell, which is disposed proximal the optical waveguide. The controllable-index matrix surrounds the relief modulation, and fills the space between the relief modulation and the waveguide. Claim 1 has been amended to more clearly define these structural features of the present invention.

Yao does not teach or suggest a device in which the relief modulation forming the grating is disposed opposite the waveguide, and the space between the grating and the waveguide filled with controllable-index matrix material. Accordingly, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the teaching of the cited reference. Thus, it is believed that the present application is in condition for allowance, and early action in that respect is courteously solicited.

If any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this response, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 19-5113.

Respectfully submitted,


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Date: June 24, 2005

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